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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/732,970

12/11/2003

Theodore W. Houston

TI-35974

8532

23494

7590

12/21/2005

TEXAS INSTRUMENTS INCORPORATED

P O BOX 655474, M/S 3999

DALLAS, TX 75265

EXAMINER

PHAN, TRONG Q

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/732,970

Applicant(s)

HOUSTON, THEODORE W.

Examiner

TRONG PHAN

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings were received on 11/03/05. These drawings have been approved.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **VDD or VDDI/O in Fig. 2 (it should be noted that the specification only discloses that n-well may be connected to a high input/output voltage VDDI/O at about 1.8 volts while the high operating voltage VDD is at about 1.2 volts in lines 21-23, page 19 not mentions any thing how the VDD and the VDDI/O are interswitchable.** Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show: **how the n-well may be connected to a high input/output voltage VDDI/O at about 1.8 volts while the high operating voltage VDD is at about 1.2 volts as described**

**in lines 21-23, page 19 of the specification since Fig. 2 of the present invention does not show any switch or device is used for connecting the V<sub>nwell</sub> voltage to the high input/output voltage VDDI/O or the high operating voltage VDD; how the first switch 210 and the second switch 220 may be connected to the high input/output voltage VDDI/O as describe in lines 1-3, page 20 of the present invention since all three transistors 210, 220 and 230 are commonly connected to VDD or VDDI/O without showing any circuit to break this connection.** Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **the feature “wherein said array high supply voltage VADD and said array low supply voltage VASS are provided concurrently” as newly recited in claims 1, 14 and 24; the features as recited in claims 11 and 23 (it should be noted that in Fig. 1 of the present invention, SRAM array 110 is receiving VADD, Vnwell and VASS voltages; in Fig. 2 of the present invention, the detailed sleep mode voltage controller 200 does not provide the n-well voltage Vnwell and the substrate voltage SUBSTRATE but it is clearly receiving the n-well voltage Vnwell and the substrate voltage SUBSTRATE; p-channel transistors 210, 220 and 230 is back biased the same n-well voltage Vnwell; n-channel transistor 240 is back biased by the substrate voltage SUBSTRATE); the minimum voltage across said SRAM array that is sufficient for data retention as recited in claims 12-13 must be shown or the feature(s) canceled from the claim(s).** No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

5. The amendment filed on 11/3/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The feature "wherein said array high supply voltage VADD and said array low supply voltage VASS are provided concurrently" as newly recited in claims 1, 14 and 24.

It should be noted that the original specification only discloses that the sleep mode voltage controller 140 in Fig. 1 of the present invention providing both voltages VADD and VASSS to the SRAM array 110 during the sleep mode (see paragraphs [0011], [0025] and [0026]), not specifically provided concurrently, therefore, both voltages may be provided to the SRAM array 110 but not concurrently at the same time.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-29 are, insofar as understood, rejected under 35 U.S.C. 102(e) as being anticipated by Deng et al., 6,925,025 (it should be noted that there is another inventor Xiaowei Deng as set forth in item (1) of 35 USC 102(e)).

Deng et al., 6,925,025, discloses in Fig. 1 a SRAM device comprising:

SRAM array 110;

immediate column peripheral circuitry 152;

sleep mode power down voltage controller 170 (see lines 18-28, column 3) for providing both high supply voltage VDDM of 0.9V that is lower than high operating voltage VDD of 1.2V based on transistor 124 and diode-connected transistor 125 and low supply voltage VSSM of 0.3V that is higher than low operating voltage VSS of 0V based on transistors 128 and 129 to the SRAM array 110 during the sleep mode as recited in claims 5-10 and 17-22; wherein: sleep mode power down voltage controller 170 regulates the high supply voltage VDDM **and (not or)** the low supply voltage VSSM to SRAM array 100 during the sleep mode (see lines 55-63, column 5) and Fig. 1 clearly shows sleep mode power down voltage controller 170 are respectively provided the

high supply voltage VDDM **and** the low supply voltage VSSM to separate power supply terminals of SRAM array 110, therefore, both the high supply voltage VDDM **and** the low supply voltage VSSM are inherently provided concurrently as recited in claims 1, 14 and 24;

n-well voltage at about high operating voltage VDD of 1.2 V (see lines 30-34, column 6) as recited in claims 2-4, 8 and 15-16;

retention data (see lines 30-31, column 2) as recited in claims 12-13 and 25;

regarding claims 3 and 27, the low supply voltage VSSM increases from the low operating supply voltage Vss to a voltage having a value equivalent to Vss plus the voltage drop across the footer-diode 129 (see lines 24-28, column 6) and since the SRAM array 110 does have n-well, therefore, it also inherently must have a substrate at a voltage which also inherently must be equivalent to the low operating supply voltage Vss as well known in the art.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the



shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Response to Arguments***

9. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

In view of the feature **“wherein said array high supply voltage VADD and said array low supply voltage VASS are provided concurrently”** as newly added to claims 1, 14 and 24, the last office action of 8/17/05 has been withdrawn. New grounds of rejections have been set forth and made FINAL as above.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRONG PHAN whose telephone number is (571) 272-1794. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AMIR ZARABIAN can be reached on (571)272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Phau Trong Phan*  
**TRONG PHAN**  
**PRIMARY EXAMINER**

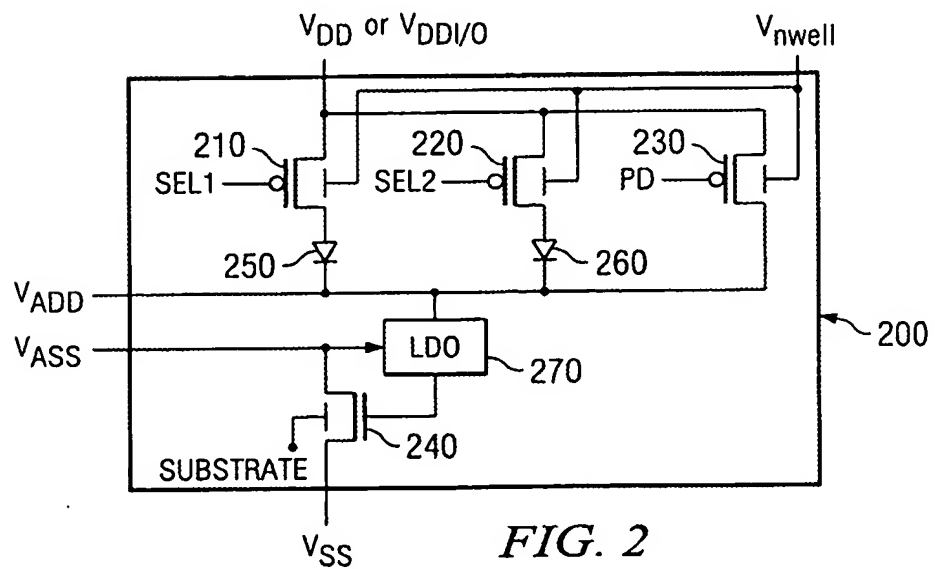
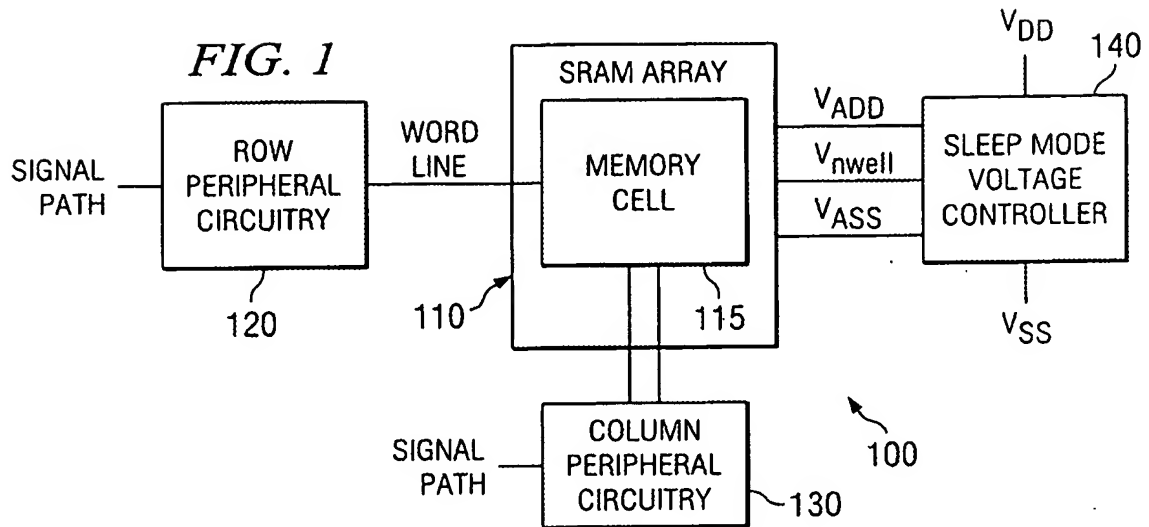


TI-35974  
10/732,970

REPLACEMENT  
SHEET 1

1/2

Approved  
TP  
12/7/05



2/2

